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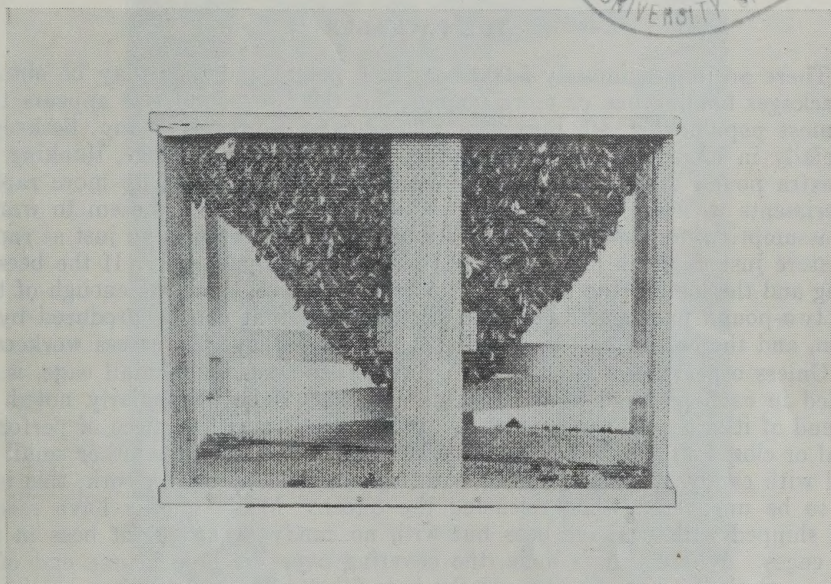
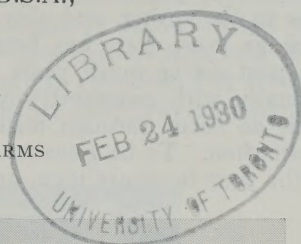
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PACKAGE BEES

AND HOW TO INSTALL THEM

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BEE DIVISION
DOMINION EXPERIMENTAL FARMS



A two-pound package of bees, including queen, that travelled well from Alabama to Ottawa.

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PACKAGE BEES AND HOW TO INSTALL THEM

Bees in combless packages have been imported from the United States into Canada with more or less success for several years, but due to a rapid expansion of beekeeping, especially in Western Canada and to a tendency on the part of many beekeepers to destroy their bees in the fall and replace them with package bees in the spring, and also to improved methods of preparing and shipping package bees, there has been an enormous increase in the importation during the past six or seven years. Thousands of packages are now being imported annually with comparatively small loss in transportation. Some losses, however, do occur through mismanagement, after the bees have arrived at their destination. To be successful with package bees one must know the best time of the year to secure them and how to care for them when they arrive.

THE PACKAGES

There are approximately 5,000 bees in a pound and they may be obtained in packages holding one or more pounds, but the two-pound size appears to be the most popular for all purposes. There are, however, many beekeepers, especially in Eastern Canada who prefer a three-pound package, thinking that the extra pound of bees will enable the new colony to build up more rapidly. Experiments with the two sizes of packages, however, do not seem to warrant this assumption, for the two-pound packages will usually build up just as rapidly and store just as much honey as do the three-pound packages. If the bees are young and the loss during transportation not excessive, there are enough of them in a two-pound package to care for all the brood that can be produced by the queen, and the colony will build up just as well without the excess workers.

Unless otherwise ordered, a young queen, enclosed in a small cage, is suspended in each package of bees. This cage should be particularly noted. At one end of it is a small hole which is usually covered with a piece of perforated metal or closed with a cork. At the other end of the cage is another small hole filled with candy and also covered with metal or closed with a cork, this is the end to be uncovered when releasing the queen. Many queens have recently been shipped with package bees but with no candy or attendant bees in their own cages. Where this is done, the covering over the hole in one end of the queen cage should be removed and the hole filled with candy before placing the cage in the hive. Care, however, must be taken not to let the queen escape during the process. Some prefer to leave the covers over the holes until after the queen has been in the hive for one day. This, however, requires a second visit to the hive to release the queen, while the first method provides for release by the bees themselves.

Package bees may come either by mail or express, as desired by the purchaser, but shipment by express is preferable, especially if the shipment contains several packages.

Combless packages of bees are allowed to enter Canada free of duty, but are shipped in bond and must be cleared through the customs house. All packages of bees entering Canada must have attached to them a declaration, signed by the shipper, that the food used in the package is free from disease (see page 8). This declaration, together with the invoices, must be presented to the customs collector when clearing the bees.

THE ADVANTAGE OF PACKAGE BEES

The bees coming in the packages are for the most part young bees that have done little or no field work, and may be used for three purposes: (1) to start new apiaries, (2) to replace losses caused by poor wintering or disease, and (3) to strengthen weak colonies.

Beginners in beekeeping, especially in Western Canada, are often at a loss to know where bees may be obtained to make the start. Although it is much better for the inexperienced to purchase their first bees already established in hives, it is not always possible, or even advisable to do so, unless it can be proved beyond a doubt that the apiary from which the bees are purchased is free from disease. Before buying bees that are already in hives, consult your Provincial Apiarist, he will give you the necessary information regarding them. Package bees, however, are safe and can be successfully established in hives by the most inexperienced if the following instructions are faithfully carried out.

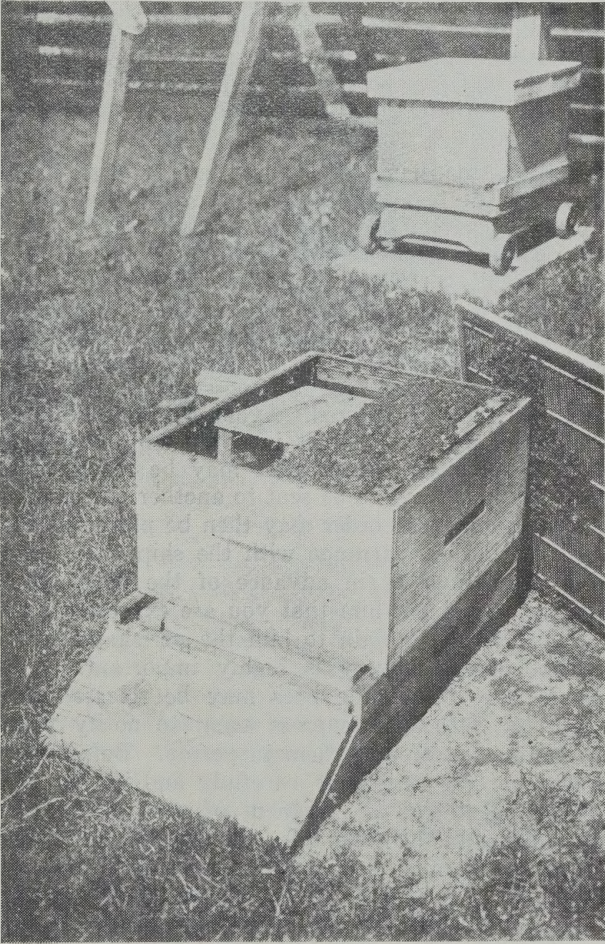


FIG. 1.—Uniting a two-pound package of bees to a weak colony, within the hive. Note the reduced entrance to prevent danger of robbing.

For the commercial beekeeper who wishes to enlarge his business through a system of outapiaries, package bees are the cheapest and quickest way of doing so.

Winter losses are often very severe in Canada, and a great many colonies perish before the active season opens. While such losses are deplorable and in many cases avoidable, they can be replaced very easily and cheaply by package bees in the spring. The same holds true for losses caused by disease.

In addition to the colonies that die outright during the winter, many others are so weakened in bees that they are unable to build up to full strength in time for the main honey flow. Such colonies if left to themselves are usually unprofitable, but if a two-pound package of young bees is united to them early in the spring, these colonies may rank among the highest producers.

ORDERING THE BEES

Package bees may be imported during the spring or early summer, but to be of any value as producers the first season, they must arrive during the latter part of April or the first week of May, or the middle of May in localities where the main honey flow does not start before the middle of July. For Vancouver Island and the Coastal Plains of British Columbia, they may arrive during the latter part of March, and for the interior two weeks later. Packages arriving later than the dates given above will seldom do better than build up into strong colonies for the winter.

Because of the enormous increase in the demand for package bees both in Canada and the United States, the breeders are usually fully booked with orders long before the spring arrives. As these orders are usually filled in rotation, it is a good plan to estimate one's requirements early and to place the order as soon as possible. When ordering package bees, be sure to state definitely, the number and size of packages required, and whether queens are to accompany them or not, also give the date on which the bees are to arrive. Some latitude must be allowed, however, in date of arrival, because unfavourable weather conditions or other causes may make it impossible for the breeder to ship the bees so as to arrive at the time desired. Avoid changing the arrival dates of an order because such changes may result in confusion for the breeder and disappointment to the purchaser. Your bees may be ready to ship, but if the order is changed, they may have to be sent to another customer who is not quite ready to receive them and your order may then be placed at the bottom of the list. When ordering the bees, arrange with the shipper to send you copies of the Canadian Customs invoices in advance of the bees, take these to your nearest customs official and tell him that you are expecting a shipment of bees on or near a certain date. Explain to him the perishable nature of the shipment and that immediate delivery is highly important. Ask the officer to notify your express agent that the bees may be released immediately upon arrival. Also arrange with your express agent to notify you when the bees arrive and then arrange to receive them in person. Before signing the receipt for the bees, examine the shipment carefully and if they are not in a good condition, have the agent sign a statement of any damage or loss. Express rates on bees are high, and the companies are responsible for safe delivery, but before damages can be claimed, a signed statement as to damage, etc., must be secured from the agent. It is advisable to obtain such statement in duplicate. Accept the bees no matter what condition they are in after receiving the receipt for them. Should the bees not arrive in good condition, report at once to the shipper and send him a copy of the agent's statement of condition of the bees when they arrived. Most shippers guarantee safe delivery, and they can better collect damages from the carrying company than can the consignee.

CARE OF THE BEES AFTER THEIR ARRIVAL

It is essential that all necessary equipment required for hiving the bees be ready before they arrive, as last minute preparations may result in heavy losses.

When the bees arrive, stand the packages in a cool, shady place. A cool cellar is quite suitable. Smear the screening of the packages with cool water or thin sugar syrup and leave them until late afternoon or evening. If the bees do not arrive until late in the day, they can be released at once. Although the bees may have been living on syrup during their trip, it is surprising the amount they will take when it is smeared on the cages. Furthermore, the giving of water or syrup seems to have a quietening effect on the bees and they are less likely to fly and drift when released into the hives.

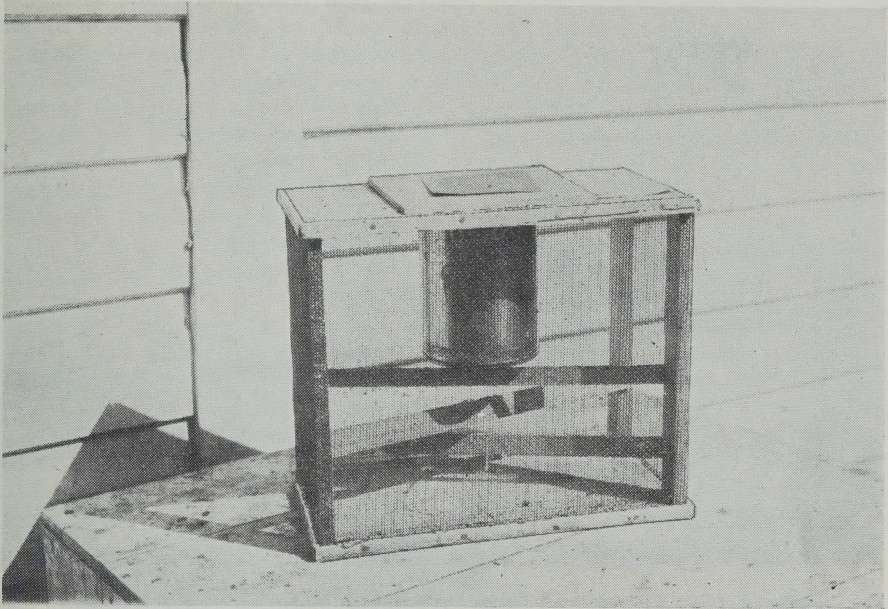


FIG. 2.—An empty package showing position of feeder can.

If the bees are to be used for starting new colonies, each hive should be fitted with five or six drawn combs, one or more of which contain honey and pollen. If drawn combs are not available, frames fitted with full sheets of foundation may be used. The combs or frames should be pushed over to one side of the hive so as to allow space enough on the other side for the package. In this space and on the floorboard of the hive, place a small stone or piece of wood about one inch in thickness. The hives all in readiness, take the packages into the apiary and place each package by the side of the hive to which it is to be introduced. Now starting with package number one, first examine the covering over the feeder can and notice if there is a fine wire attached to it and leading down into the package. Shippers usually attach the wire holding the queen cage to this covering. Loosen this wire, then remove the covering and the feeder can from the package and then lift out the cage containing the queen. Examine this cage to see that the queen is alive. Remove the metal covering or cork from the candy hole and push a large size nail or stick through the candy, as this will enable the bees to release the queen quickly. Take care not to injure the queen. Now hang the queen cage between the top bars of the frames in the hive, shake a few bees from the cage onto the frames and then stand the package upside down in the space alongside the frames, resting one

end of the package on the stone or piece of wood. This will permit the bees to pass freely from the package to the combs. Cover the hive and reduce the entrance of it to about one inch. Proceed in the same manner until all the packages are installed. If the queen came in a dry cage, that is without candy or attendants, it is a good plan to remove the covering from one of the end holes and to fill the hole with candy as this will permit the bees to release the queen themselves, or the holes may be left covered for at least twenty-four hours after installing the bees. It is not safe to release the queen at the time of installing the packages.

The bees will soon leave the packages and cluster around the queen cage. Usually the empty packages may be removed from the hive the next day and the empty space may then be filled with drawn comb or sheets of foundation, or left for feeding purposes.

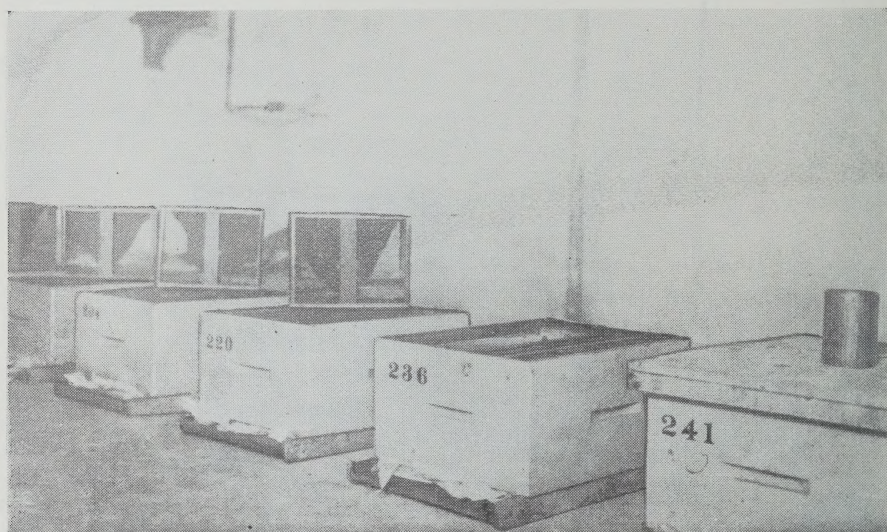


FIG. 3.—Transferring package bees to hives in the bee cellar at Ottawa. Hive No. 236, shows the package standing alongside the frames in the hive. The entrances are closed with soft paper.

Some beekeepers prefer to release the bees immediately upon arrival, either following the method of releasing as outlined above or first suspending the cage containing the queen between the frames and then shaking the bees down at the entrance of the hive. By this method, however, many of the bees take flight before locating their hives and considerable drifting is likely to take place. This can be overcome to a certain extent by releasing the packages alternately in different parts of the apiary. The first method may require a little more time and care, but is to be preferred, as the bees are quietened by the feeding and rest in a cool place and when released within the hives, there is little or no disturbance.

After releasing the bees and removing the empty packages from the hives, do not disturb the colonies by examining them for at least seven days, otherwise the queens may be killed. Many a good queen is lost through curiosity. It is quite safe to take a look at the queen cage twenty-four hours after the bees are released to see that she is either released or will be so within a very short time. Keep the entrances of the hives reduced until the bees are well established and all danger of robbing is past.

If the weather is extremely bad when the bees arrive so that they cannot be transferred from the packages to the hives outside, this work may be done

in a dark, cool cellar or building (see fig. 3). Artificial light may be used while the bees are being released. First prepare the hives exactly the same as for outdoor releasing, then close the entrances to the hives completely, now release the bees within the hives as previously outlined. If care is used, this may be accomplished with scarcely a bee lost. About thirty minutes after the bees are released, open the hive entrances about one inch, otherwise the bees may suffocate. As soon as the weather permits, the hives can be taken from the cellar to the apiary.

Food is an important item to package bees, especially if they are installed on foundation only. As the bees usually arrive early in the season, it is impossible for them to gather enough from the fields to live on, let alone produce brood, therefore, it is imperative that they be fed by the beekeeper. If combs containing honey are not available, sugar or honey syrup, made of equal parts of sugar or honey and water may be used. On no account give the bees honey from an unknown source, as disease may be introduced by doing so.

Honey of course is the best food for the bees during the spring of the year, but if this is not available, sugar must be substituted. Hiving the bees on combs of honey saved from the previous year is the ideal way of feeding package bees, but beginners are not likely to have them, therefore syrup must be used. If feeding is necessary, it should be commenced about twenty-four hours after the bees are released. The syrup should be given while warm, and preferably in the evening, as this reduces the danger of robbing. Honey pail feeders are the best to use and when filled with the warm syrup, they may either be placed in the hives alongside the combs after the empty package has been removed or in empty supers over the hives. If placed inside the hives, be sure to raise the pails slightly from the floor board, with small blocks of wood, so that the bees may reach the syrup. Feed package bees liberally, as the early sources of nectar do not yield sufficient food for the maintenance of the colonies.

If the bees are required to replace losses, they may be installed in the same manner as described above, but first of all, be sure that the hives or combs to which they are to be introduced, are free from disease.

Where the bees are to be used for the strengthening of weak queenright colonies, it is not necessary for queens to accompany the packages. Treat the

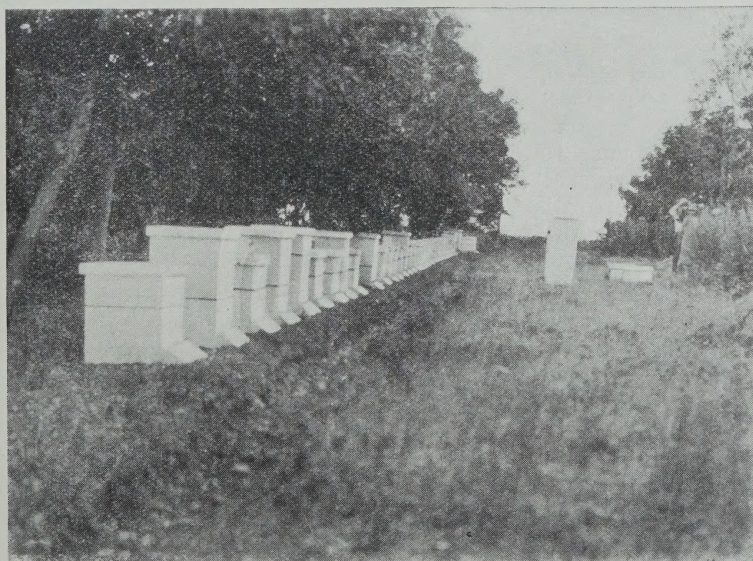


FIG. 4.—Apiary in Saskatchewan built up from package bees.

bees when they arrive in the same manner as previously outlined, then proceed as follows: First cage the queen of the weak colony and hang the cage in the hive. Then remove four or five of the lightest combs and push the others over to one side of the hive. Towards evening, remove the feeder can from the package and stand the package upside down in the hive alongside the frames, raising it a little from the floor-board so that the bees may escape. Cover the hive, reduce its entrance and with the exception of removing the empty package and filling the hive with combs the following day, do not disturb for at least a week. Another method is to place an empty super over the hive and after removing the feeder can from the package, place it upside down, or on its side in the super. The bees will soon leave the package and mingle with the bees of the colony. A small can of syrup given to each of the colonies at the same time the packages are introduced, will reduce any danger of fighting between the bees of the colony and the strangers.

REGULATIONS GOVERNING THE IMPORTATION OF BEES

Under and by virtue of the authority conferred upon me by the provisions of the Order in Council of November 30, 1909, containing regulations relating to Animals' Quarantine, issued under the authority of the Animal Contagious Diseases Act, Chap. 75, R.S.C., 1906, I, the undersigned, Joseph Hiram Grisdale, do hereby order that:—

To prevent the further introduction of American foul brood and other diseases which affect the brood of bees, the importation into Canada of bees on combs or of used or second hand hives and bee supplies is prohibited.

The importation of bees in combless packages is also prohibited, unless such packages are accompanied by a declaration signed by the shipper that the food supplied to the bees and carried in the package is free from disease.

This Order shall come into effect on and after March 20, 1924.

Dated at Ottawa, this eleventh day of March, nineteen twenty-four.

(Sgd.) J. H. GRISDALE,

Deputy Minister of Agriculture.

CONCLUSION

Package bees may be imported safely anywhere in Canada and in most localities with proper care and management will build up into strong producing colonies the first season. In the prairie provinces and other areas where the main honey flow comes late so that there is a comparatively long building up period, package bees will often equal overwintered colonies in production. In regions where the main flow comes early package bees are unable to build up to full strength before the flow starts, therefore, cannot be expected to store such large crops.

Combless packages of bees are safe. The newer method of supplying package bees with sugar syrup instead of candy for their journey prohibits the possibility of introducing brood diseases. While the beginner may avoid considerable trouble by purchasing bees already established on combs, it is much safer to purchase package bees, unless one is absolutely certain that the established bees are free from disease.

When purchasing package bees, it is extremely important that the hives are ready to receive them when the bees arrive, and that there is a sufficient and continuous supply of food for them until they can gather enough for themselves from the fields. It is not necessary to hive the bees on drawn combs, foundation may be used just as well, but heavier feeding will be necessary.